

CLAIMS

1. A substrate adsorbing device comprising:
 - a stage including an adsorption face for holding a substrate;
 - a plurality of adsorption ports formed in a region of the adsorption face of the
 - 5 stage;
 - an air discharge path connected to each of the adsorption ports;
 - pressure reducing means connected to the adsorption ports through the discharging
 - path; and
 - pressure detecting means that detects pressure in the air discharge path,
 - 10 wherein a plurality of leak trenches open to both the adsorption face of the stage
 - and a side face of the stage are formed in a region of the stage except a region where the
 - adsorption ports are formed.
2. The substrate adsorption device of Claim 1,
- 15 wherein the pressure detecting means is provided in the air discharge path for each
- of the adsorption ports.
3. The substrate adsorption device of Claim 1,
- wherein for each of the adsorption ports, the pressure detecting means and an
- 20 opening/closing mechanism for opening/closing the corresponding adsorption port based
- on a pressure state detected by the corresponding pressure detecting means are provided in
- the air discharge path.
4. The substrate adsorption device of Claim 3,
- 25 wherein the opening/closing mechanism closes the corresponding adsorption port
- when the pressure detecting means does not detect a vacuum state.

5. The substrate adsorption device of Claim 1,
wherein the leak trenches are formed in a grid pattern in the region of the adsorption face of the stage.
- 5 6. The substrate adsorption device of Claim 5,
wherein the adsorption ports are formed at centers of regions surrounded by the leak trenches formed in the grid pattern, respectively.
7. The substrate adsorption device of Claim 1,
10 wherein the leak trenches are formed in a stripped pattern in the region of the adsorption face of the stage.
8. A substrate bonding device comprising:
two substrate adsorption devices according to Claim 1,
15 wherein the substrate adsorption devices are arranged so that the adsorption faces of the stages face each other, and
the stages are allowed to be close to each other while adsorbing and holding substrate, respectively, to bond the substrates to each other.